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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/537,752 | 12/05/2005 | Michael Leister | 2133.089USU | 5178 |

27623 7590 12/22/2008
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| EXAMINER |
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HOFFMANN, JOHN M

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| ART UNIT | PAPER NUMBER |
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1791

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| MAIL DATE | DELIVERY MODE |
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12/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/537,752 | Applicant(s) LEISTER ET AL. | |
| | Examiner John Hoffmann | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 10,12,20,21 and 23-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,11,13-19,22 and 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/28/2008, 12/05/2005, 6/6/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group 1, specie A, D, E and H in the reply filed on 11/28/2008 is acknowledged. The traversal is on the ground(s) that there is no lack of inventive concept because Kunert fails to disclose the composition lacking alkaline oxides or having a low silicon content. This is not found persuasive because the claims do not require either of these things. Applicant fails to point out any specific limitation in claim 1 which is not contained in Kunert. The same applies to the election of species.

Moreover, as discussed in the rejection below, it can be seen that there is no invention being claimed in claim 1.

Finally, applicant makes no attempt to clearly and deliberately forth any single inventive concept or special technical feature. And examiner can see none.

The requirement is still deemed proper and is therefore made FINAL.

Claims 10, 12, 20-21 and 23-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/28/2008.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 11, 13-19, 22 and 28-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: there is no antecedent basis for “the molar substances quantities, this make it unclear if there must be such quantities.

Claim 8: there is no antecedent basis for “the region”.

Claim 14: there is no antecedent basis for “the form”. This is confusing because pellets can have any number of forms, thus it is unclear which form the claim is directed to.

Claim 19: there is confusing antecedent basis for “appliances” - it is unclear if these two are in addition to the appliance of claim 1 - for a total of at least three.

The various M's in various claims are indefinite as to their meanings. For example there is no indication as to what M(III) in claim 28 may or may not be. Furthermore, M(II) means one thing in claim 28, but something else in claim 34 - this indicates that the various M's can vary from claim to claim thus making it indefinite as to what is meant when the claims are silent.

'Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1791

Claims 1-7, 11, 13-19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Onozawa 6713419.

Kunert 6757317 is relied upon to show what the reference discloses – since Examiner does not read German well.

Kunert discloses the invention as claimed, except for compositional limitations of claim 1. However as per col. 4, line 8 of the US version of Kunert: lanthanum borate glasses are contemplated. Onozawa discloses the use of lanthanum borate glasses within the scope of the compositional limitations of claim 1 - for example, Onozawa's example 1 - (Table 1 starting in col 8). Onozawa teaches this composition is good for precision molding of aspherical lenses (col. 1, lines 12-38) with "low cost", "high performance" and it decreases the number of lenses to be used in "designs of various kinds of optical devices). Thus it would have been obvious to use the superior Onozawa glass as the Kunert lanthanum borate glass, for any or all of its disclosed advantages.

The art can also be applied in an alternative interpretation" using Onozawa as the primary reference. Given that Kunert teaches the Kunert method that eliminates impurities, corrosion and adherence of the glass melt (col. 2, lines 2-7) it would have been obvious to improve the Onozawa method, by using Kunert's superior method of melting lanthanum borate glass, or any or all of the Kunert advantages.

The "at least one metal oxide" is at least 6: La, Y, Zr, Ta, Ca, Ba and Sb. It is clear they make up at least 25 molar % (e.g. Onozawa's Example 1). The induction

Art Unit: 1791

heating and alternating EM field limitations are clearly met (as per col. 1, line 18 of Kunert.)

Claim 2: see Kunert, col. 2, line 12.

Claim 3: It would have been obvious to use whatever frequency is most suitable for the situation – depending upon the equipment most readily available.

Claim 4: Onozawa does not disclose the starting materials used to make the composition. It would have been obvious to use any of the claimed starting materials – depending upon which is the most economical source of boron for the final composition.

Claim 5: It would have been obvious to have the boron source material be as pure as reasonably possible - i.e. keep alkalis absent, so that one can control all the ingredients in a pure batch calculation.

Claim 6: see Kunert, col. 1, line 10.

Claim 7: It is clear from Kunert's figure 1 that the cooling tubes have a spacing - but there is no indication as to what the spacing is. It would have been obvious to have the spacing as big or as small as needed, depending upon what the size of the apparatus is.

A. Changes in Size/Proportion

In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions

Art Unit: 1791

would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Clearly a small furnace with small tubes would have smaller spacings – as compared to a larger furnace with larger tubes.

Claim 11: See col. 2, lines 23-26 of Kunert which discloses that platinum can be used.

Claim 13: see claim 3 of Kunert.

Claim 14: Examiner takes official notice that adding raw materials in pellet form is well known – so as to reduce dust problems and aid in melting. It would have been obvious to use a pellet form so as to reduce dust and/or aid melting. Alternatively, the term "pellet form" fails to define over Kunert because a pellet can be of any shape/form. Thus at least at a microscopic level even dust could have the form/shape of a pellet.

Claim 15: see for example see col. 8, line 21 of Onozawa. Also it is inherent that the glass would be stirred by convective currents.

Claim 16-17: Examiner takes official notice that it is well known to blow gas below the surface of molten glass with a lance so as to fine and/or homogenize the glass. The US patent classification system also has a subclass devoted to this concept (i.e. 65/124.5). It would have been obvious to blow a gas below the surface with a lance so as to aid in forming a well-mixed batch – as is conventionally done.

Claim 18: it is deemed inherent that the glass is refined during the melting.

Claims 19 and 22: Examiner also takes official notice that it is well known to run commercial melting operations in a continuous method where raw ingredients are

Art Unit: 1791

added to a melting chamber, then the glass moves on to fining sections, and homogenizing sections where the glass can be cooled to the final working temperature. It would have been obvious to utilize the well known continuous process to create the Onozawa glass, rather than a batch process, for any of its well known advantages.

From MPEP 2144.04

E. Making Continuous

In re Dilnot, 319 F.2d 188, 138 USPQ 248 (CCPA 1963) (Claim directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art.).

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Onozawa 6713419 as applied to claim 7 above, and further in view of Romer 6817212.

Kunert does not disclose the short circuit. Romer teaches to short circuit the pipes to increase the life of the pot (col. 2, lines 19-33). It would have been obvious to short circuit the pot as disclosed in Kunert, so as to extend its life.

Claim 9: it would have been obvious to only short circuit at one location – depending upon the size of the pot. It would have been obvious to omit the second short circuit ring when it is not needed.

Claims 1, 29 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Geffcken 3193400

Geffcken's glass is an "improved" optical glass and has an extremely high refractive index and Abbe value (col. 1, lines 11-13). It would have been obvious to use

Art Unit: 1791

the Geffcken composition as the Kunert Lanthanum borate glass, for its superior properties. Alternatively, it would have been obvious to create the Geffcken glass objects by using the Kunert improved method (that eliminates impurities, corrosion and adherence of the glass melt) for making glass.

Claim 29: by Examiner's calculations of converting the wt % to mol %. The first glass of the table of example 2 of Geffcken has 72% B₂O₃, 22 % La₂O₃ and 6% Y₂O₃.

Claim 37 is clearly met.

Claims 1 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Brow 5648302

As in the above rejections: it would have been obvious to use the Brow composition in the Kunert method, for the advantages of the Brow composition, or for the advantages of the Kunert method.

Claim 28: Looking to claim 12 of Brow. The boron and silicon oxides limitations are clearly met. The GaO₃ composition is 0; it is deemed that the broadest reasonable interpretation of the list of three oxides of Al, Ga and In is in the alternative - that is only one of the three must be in the 0-0.5 % range. The 0-40% range is met because CaO and BaO is 18%. The 0-27% range is met as La And La oxides equal 12%. And the 27-40% range is met because the summation is 30. The rest of the limitations are clearly met.

Art Unit: 1791

Claims 1 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Skedgell 4358544

As in the above rejections: it would have been obvious to use the Skedgell composition in the Kunert method, for the advantages of the Skedgell composition, or for the advantages of the Kunert method. See for example Glass A of table 1A of Skedgell for claims 30-31. Claim 33: the Ga and In are the substances selected from the group.

Claims 1 and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunert WO/01/53222 in view of Dumesnil 3963505

As in the above rejections: it would have been obvious to use the Dumesnil composition in the Kunert method, for the advantages of the Dumesnil composition, or for the advantages of the Kunert method. See for example Glass VIII of table 2 of Dumesnil for claims 30-31. Examiner's conversion yields 59.6 molar % PbO, 25.7 % B₂O₃ and 14.7 % SiO₂. And 0% Bi₂O₃.

The limitations of claims 1 and 30-36 are clearly met.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kloss, Hormadaly, Kawamura, Harada, Boudot, and de Sandro are cited as being cumulative to the applied art.

Art Unit: 1791

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1791

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